Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A process to damp and filter the amplitude of mechanically-originated vibrations of a structure to be uncoupled, ~~wherein the~~ wherein an incident vibratory wave is filtered ~~associated~~ with ~~damping, by providing absorption of the~~ damping by absorbing a filtered vibratory wave transmitted ~~to the structure~~ over a ~~very wide very wide band of~~ frequency and mechanical load amplitude that is applied ~~to said structure.~~to the structure; and

a plurality of suspension assemblies are each mounted in series between two elements of the structure with a damping device mounted in parallel to the suspension assembly.

2. (Canceled)

3. (Currently Amended) ~~A damping and filtering process~~ The process according to Claim 1, wherein the damping device ~~is of the parallel type and has~~ comprises an internal geometry ~~able to provide~~ that provides a deflection, and if ~~required also~~ required, an amplification and location of the mechanically-originated vibrations to ensure damping of the vibratory response ~~of said~~ of the structure, and ~~wherein~~ the series suspension ~~at the same time has a sufficiently~~ comprises a rigid static support function, ~~and dynamic~~ and a dynamic filtering ~~functions~~ function with variable characteristics ~~depending~~ based on the level of the load ~~to be~~ that is applied to the structure.

4. (Currently Amended) A device to filter and damp the vibrations between a first element subjected to an incident vibratory wave and a second element radiating a filtered vibratory wave, wherein ~~it comprises~~the device comprises: ~~an~~ a plurality of interface structures ~~structure to transfer~~ each mounted in series between the first and second elements

that transfers vibratory energy constituted by at least one elastic component and at least one dissipative component attached in parallel to the elastic component to ~~ensure the filtration and damping~~ filter and dampen of the incident vibratory ~~wave.~~over a frequency and a mechanical load amplitude that is applied to the interface structure.

5. (Currently Amended) ~~A filtering and damping device~~ The device according to Claim 4, wherein the dissipative component comprises two separate rigid frames ~~ensuring, punctually or continuously,~~ that provide deflection functions, if required, by a lever arm effect,

wherein amplification of the vibratory energies generated by the at least one elastic ~~components~~ component towards a dissipative material ~~positioned between them, said~~ is damped by the dissipative ~~component providing damping for the elastic~~ component.

6. (Currently Amended) ~~A filtering and damping device~~ The device according to Claim 4, wherein the dissipative component ~~has a lineic~~ comprises:

a linear profile and ~~comprises~~ an assembly of rigid aligned frames,

wherein the rigid aligned frames are attached ~~by their bases~~ to the at least one elastic ~~components,~~ component, or to any other vibrating structure, ~~and~~ and are independent of one another such ~~that their~~ that the relative ~~movements,~~ movements of each rigid aligned frame, corresponding to an amplification by lever arm effect of the vibratory response of the elastic component, ~~are transmitted by their ends~~ is transmitted by the end of the rigid aligned frame to a dissipative material onto which a ~~continuous or discontinuous~~ stress plate is mounted to transfer the vibratory energy to the ~~frame assembly.~~assembly of rigid aligned frames.

7. (Withdrawn-Currently Amended) ~~A filtering and damping device~~ The device according to Claim 4, wherein the dissipative component ~~of surface profile comprises an~~

~~element, of adapted stiffness, isotropic or not, continuous or not, rigidly attached at one side to the component,~~ comprises:

an element attached to the dissipative component, or to any other vibrating structure, such that the vibratory ~~waves,~~ waves that are deflected, located and amplified ~~by its~~ by an internal ~~structure,~~ structure of the device are transmitted, ~~by its~~ by an upper ~~face,~~ face of the element to a dissipative ~~material, itself~~ material that is stressed ~~on its~~ on an upper face of the dissipative material by a ~~continuous or locally discontinuous plate able to ensure the transfer~~ plate that transfers ~~via the dissipative material of~~ vibratory energies ~~respectively~~ towards ~~the assembly or~~ an assembly of rigid frames via the dissipative material.

8. (Withdrawn-Currently Amended) ~~A filtering and damping device~~ The device according to Claim 4, wherein the dissipative component is rotational and comprises an assembly of rigid frames, spaced cyclically ~~or not~~ around a central part, attached ~~rigidly or not~~ at one end to the elastic ~~component~~ component, or to any other vibratory structure, and ~~free at~~ unattached at the ~~other~~ another end so that the relative movements of ~~these~~ the assembly of rigid frames are transmitted to dissipative materials, and attached at the other end to a ~~continuous or discontinuous stressed~~ stress plate ~~able,~~ that, through the dissipative materials, ~~to ensure the retention of the frame assembly.~~ retains the assembly of rigid frames.

9. (Withdrawn-Currently Amended) ~~A filtering and damping device~~ The device according to Claim 4, wherein the elastic component comprises an assembly of two rotational sub-assemblies ~~having a continuous or discontinuous evolutive profile of the~~ that are elastic leaf ~~spring type,~~ springs, and at least one ~~of whose ends~~ end of the elastic component has an evolutive contact surface, wherein the assembly ~~being completed by~~ of two rotational sub-assemblies has a zone in which the at least one dissipative ~~materials are~~ component is inserted.

10. (Withdrawn-Currently Amended) ~~A filtering and damping device~~ The device; according to Claim 9, wherein the elastic leaf springs have a potentially non-linear stiffness conferred ~~by their~~ by an evolutive geometric profile of the elastic leaf springs to ensure a gradual contact ~~of the~~ of a first leaf spring ~~with the~~ with a matching profile of ~~the other~~ a second leaf spring, to ~~ensure an evolutive~~ provide the evolution of the filtering frequency and ~~controlled~~ a controlled relative motion space of the ~~leaves~~ leaf springs according ~~to the~~ to a dynamic load that is applied.

11. (Withdrawn-Currently Amended) ~~A filtering and damping device~~ The device according to Claim 4, wherein the interface structure is rotational ~~or not and is composed of an~~ and comprises a first elastic leaf spring rigidly connected to the second element ~~and an~~ and a second elastic leaf spring rigidly connected to the first element, the leaf springs being connected together at their free ends and wound around a ~~ring, elastic or not, by means of~~ ring, using layers of dissipative materials, and coming into direct contact according ~~to the~~ to a dynamic load that is applied to ~~ensure the~~ provide a non-linear filtering and damping function.

12. (Withdrawn-Currently Amended) ~~A filtering and damping device~~ The device according to Claim 11, wherein the first and second elastic leaf springs have a potentially non-linear stiffness ~~thanks to their evolutive geometric profile and by the gradual contact between the leaf springs whose profiles reciprocally match their respective admissible maximal deformation, to ensure,~~ to provide, depending on the dynamic load that is applied, ~~evolutive~~ the evolution of the frequency and a controlled ~~or even limited~~ relative motion space of the first and second elements.

13. (Currently Amended) ~~A filtering and damping device~~ The device according to Claim 4, wherein the dissipative material ~~converts the~~ converts vibratory energy into ~~another form of energy, for example~~ heat energy by friction between materials or with viscoelastic

materials, electrical energy with piezoelectric materials, magnetic energy with magnetostrictive materials, or ~~any other~~ another form of energy.

14. (Currently Amended) A filtering and damping device according to Claim 4, wherein the elastic component has at least two dimensions and ~~may be formed~~ is formed by assemblies of beams, straight or curved bars, solid volumes, plane plates or more complex ~~shapes and wherein its~~ shapes, and elastic properties of the elastic component stem from elastic ~~materials, metallic or not, homogeneous or not,~~ materials that are metallic, homogenous, isotropic or anisotropic.

15. (Withdrawn-Currently Amended) ~~A filtering and damping device~~ The device according to Claim 7, wherein the element comprising the dissipative component of surface profile, integrates the properties of thermal and acoustic ~~insulation, such as for example~~ insulation comprising cellular foam, or cork-based composites, enabling the dissipative component to preserve damping efficiency over a wide temperature range and to possess, in addition, the intrinsic performances of an acoustic screen and thermal insulator.

16. (Currently Amended) ~~A damping and filtering process~~ The process according to ~~Claim 2,~~ Claim 1, wherein the damping device is of the parallel type and has an internal geometry able to provide a deflection, and if ~~required also~~ required, an amplification and location of the vibrations to ensure damping of the vibratory response of ~~said~~ the structure, and wherein the series suspension ~~at the same time~~ concurrently has a ~~sufficiently~~ rigid static support function, ~~and dynamic~~ and a dynamic filtering ~~functions~~ function with variable characteristics ~~depending on~~ based on the level of the load ~~to be~~ that is applied to the structure.

17. (Currently Amended) ~~A filtering and damping device~~ The device according to Claim 6, wherein the elastic component has at least two dimensions ~~and may be~~ and is formed

by assemblies ~~of beams,~~ comprising beams, straight or curved bars, solid volumes, plane plates or more complex ~~shapes~~ shapes, and ~~wherein its~~

the elastic component has elastic properties ~~stem~~ that stem from elastic ~~materials, metallic or not, homogeneous or not,~~ materials that are metallic, homogeneous, isotropic or anisotropic.

18. (Withdrawn-Currently Amended) ~~A filtering and damping device~~ The device according to Claim 8, wherein the elastic component has at least two dimensions and may be formed by assemblies ~~of beams,~~ comprising beams, straight or curved bars, solid volumes, plane plates or more complex ~~shapes~~ shapes, and

wherein ~~its elastic~~ the elastic component has properties ~~stem~~ that stem from elastic ~~materials, metallic or not, homogeneous or not,~~ materials that are metallic, homogeneous, isotropic or anisotropic.

19. (Withdrawn-Currently Amended) ~~A filtering and damping device~~ The device according to Claim 10, wherein the elastic component has at least two dimensions and may be formed by assemblies ~~of beams,~~ comprising beams, straight or curved bars, solid volumes, plane plates or more complex ~~shapes~~ shapes, and

wherein ~~its elastic~~ the elastic component has properties that stem from elastic ~~materials, metallic or not, homogeneous or not,~~ materials that are metallic, homogeneous, isotropic or anisotropic.

20. (Withdrawn-Currently Amended) ~~A filtering and damping device~~ The device according to Claim 12, wherein the elastic component has at least two dimensions and may be formed by assemblies ~~of beams,~~ comprising beams, straight or curved bars, solid volumes, plane plates or more complex ~~shapes~~ shapes, and

wherein ~~its elastic~~ the elastic component has elastic properties that stem from elastic ~~materials, metallic or not, homogeneous or not,~~ materials that are metallic, homogeneous, isotropic or anisotropic.